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## CLAIMS

## What is claimed is:

1. A method for determining a predicted health of a set of components of a system that would result from an application of a proposed intervention to an existing system, comprising the steps of:

determining a set of modifications involved in the proposed intervention, each modification involving one or more of the components of the existing system;

for each modification, obtaining a set of component information that pertains to the modification from a knowledge base, each set of component information specifying a set of interdependencies among the components involved in the modification;

for each modification, determining whether the inter-dependencies specified in the component information are satisfied.

- 2. The method of claim 1, wherein the interdependencies include a set of prerequisite components for one or more of the components.
- 3. The method of claim 2, wherein the interdependencies include a prerequisite configuration for one or more of the prerequisite components.
- 4. The method of claim 2, wherein the interdependencies include a prerequisite set of parameters for one or more of the prerequisite components.

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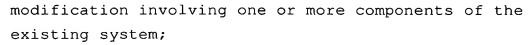
- 5. The method of claim 1, wherein the interdependencies include one or more conflicting components for one or more of the components.
- 5 6. The method of claim 5, wherein the interdependencies include a conflicting configuration for one or more of the conflicting components.
- The method of claim 5, wherein the inter dependencies include a conflicting set of parameters for one or more of the conflicting components.
  - 8. The method of claim 1, further comprising the step of determining one or more changes to the proposed intervention in response to the predicted health.
- The method of claim 1, further comprising the step of generating a predicted health indicator by
  applying a combination function to a predicted health of each component in the system.
  - 10. The method of claim 1, further comprising the step of determining an indication of uncertainty associated with the predicted system health.
    - 11. An apparatus for determining a predicted health of a system that would result from an application of a proposed intervention to an existing system, comprising:

means for determining a set of modifications involved in the proposed intervention, each

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means for obtaining a set of component information that pertains to the modification from a knowledge base, each set of component information specifying a set of inter-dependencies among the components involved in the modification;

means for determining whether the interdependencies specified in the component information are satisfied.

- 12. The apparatus of claim 11, wherein the interdependencies include one or more prerequisite components for one or more of the components.
- 13. The apparatus of claim 12, wherein the interdependencies include a prerequisite configuration for one or more of the prerequisite components.
- 20 14. The apparatus of claim 12, wherein the interdependencies include a prerequisite set of parameters for one or more of the prerequisite components.
- 15. The apparatus of claim 11, wherein the interdependencies include one or more conflicting components for one or more of the components.
- 16. The apparatus of claim 15, wherein the interdependencies include a conflicting configuration for one or more of the conflicting components.

- 17. The apparatus of claim 15, wherein the interdependencies include a conflicting set of parameters for one or more of the conflicting components.
- 5 18. The apparatus of claim 11, further comprising means for determining one or more changes to the proposed intervention in response to the predicted health.
- 19. The apparatus of claim 11, further comprising means for generating a predicted health indicator by applying a combination function to a predicted health of each component in the system.
- 15 20. The apparatus of claim 11, further comprising means for determining an indication of uncertainty associated with the predicted system health.